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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/995,917	11/27/2001	Joanne Chory	SALKINS.045A	1165

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EXAMINER

BAUM, STUART F

ART UNIT	PAPER NUMBER
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1638

9

DATE MAILED: 09/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicati n No.

09/995,917

Applicant(s)

CHORY ET AL.

Examiner

Stuart F. Baum

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-- The MAILING DATE of this c mmunication appears on the c ver sheet with the c rrespondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 March 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,5-8,12-17 and 21-31 is/are pending in the application.
- 4a) Of the above claim(s) 24-26 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 27 and 28 is/are allowed.
- 6) ☐ Claim(s) 1-3,5,8,12,15-17,21,23 and 29-31 is/are rejected.
- 7) ☒ Claim(s) 6,7,13,14 and 22 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

1. The amendment filed 6/16/2003 has been entered.

2. Claims 1-3, 5-8, 12-17, and 21-31 are pending.

Claims 4, 9-11, and 18-20 have been canceled.

Claims 24-26 are withdrawn from consideration because they are drawn to non-elected inventions.

3. Claims 1-3, 5-8, 12-17, 21-23, and 27-31 are examined in the present office action.

4. Rejections and objections not set forth below are withdrawn.

5. The text of those sections of Title 35, U.S. Code not included in this office action can be found in a prior office action.

6. This application contains claims 24-26 drawn to an invention nonelected without traverse as stated in the Examiner's Office Action mailed 3/12/2003. A complete reply to the final rejection must include cancelation of nonelected claims (37 CFR 1.144) See MPEP § 821.01.

Indefiniteness

7. Claims 1-5, 8-13, and 15-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, replace the word "homology" with --sequence identity--. The meaning of the word "homology" includes an evolutionary component, that is not defined.

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In claims 8, 17, and 23, replace the word "homology" with --identity--. The meaning of the word "homology" includes an evolutionary component, that is not defined.

The previous two rejections are maintained for the reasons of record set forth in the Official action mailed 3/12/2003. Applicant's arguments filed 6/16/2003 have been fully considered but they are not persuasive.

Applicant contends that "homology" is well-known to those of ordinary skill in the art and Applicants recite the definition as disclosed in the American Heritage Dictionary as "corresponding or similar in position, value, structure or function". Applicant's arguments are not persuasive because the definition itself does not allow one skilled in the art to clearly determine the metes and bounds of the claimed invention. For example, how is a sequence 95% similar in function to SEQ ID NO:1? How is it different? What constitutes the 5% dissimilarity?

Written Description

8. Claims 1-3, 5, 8, 12, 15-17, 21 remain rejected and 23, 29-31 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. This rejection is maintained for the reasons of record set forth in the Official action mailed 3/12/2003. Applicant's arguments filed 6/16/2003 have been fully considered but they are not persuasive.

Applicants contend that they have fulfilled the written description requirement by disclosing specific structural and physical properties of the DAS5 protein which is a member of the P450 family of proteins having characteristic conserved domains, e.g., an N-terminal

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membrane-anchoring domain, a proline rich domain, a heme-binding domain and an oxygen-binding domain (page 8, last paragraph). Applicants also describe the chemical properties of a DAS5 protein, i.e., the involvement in brassinosteroid synthesis, (See Table 1 on page 29 of the specification) (top of page 9 of amendment).

The Office contends that the domains that Applicant has recited above, are characteristic for all P450 family members and is not characteristic for Applicants' DAS5 protein. Arguments not commensurate in scope with the claims. No function or structure is recited with the "95% homology" sequences. Applicant failed to provide an adequate number of representative number of members having 95% homology with SEQ ID NO:1 to allow one skilled in the art to reliably predict the structure of other sequences intended by Applicant to be encompassed by the claims.

Scope of Enablement

9. Claims 1-3, 5, 8, 12, 15-17, 21 remain rejected and 23, 29-31 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for claims drawn to a method of producing a genetically modified plant, a genetically modified plant and genetically modified plant seed comprising transforming a plant with a nucleic acid molecule encoding a DAS5 polypeptide of SEQ ID NO:1 encoded by SEQ ID NO:3, does not reasonably provide enablement for a method of producing a genetically modified plant, a genetically modified plant and genetically modified plant seed comprising transforming a plant with a DAS5 polypeptide exhibiting 95% homology to SEQ ID NO:1. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention commensurate in scope with these claims. This rejection is maintained for the

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reasons of record set forth in the Official action mailed 3/12/2003. Applicant's arguments filed 6/16/2003 have been fully considered but they are not persuasive.

Applicants' contend, that to advance prosecution, they have amended independent claims 1, 8, and 17 to be drawn to plants and methods of producing a genetically modified plant comprising expressing a nucleic acid that encodes an amino acid sequence exhibiting 95% homology to SEQ ID NO:1. Applicants contend that it would not constitute undue experimentation for one skilled in the art to isolate a claimed sequence (page 10, 2nd paragraph) and to transform a plant and screen for plants with increased growth (page 11, 1st full paragraph).

The Office contends that screening through a multitude of sequences, from a multitude of plants, and then screening through a multitude of plants that have been transformed with all of the above sequences would constitute undue experimentation; especially in lieu of the unpredictability as stated in the office action mailed 3/12/2003. Given Applicants' narrower claim scope, which now recite sequences that encode a polypeptide exhibiting 95% sequence identity to SEQ ID NO:1, adding to these claims a statement defining the encoded polypeptide's function, will overcome the rejection. The function should be one that is easily testable and specific for the claimed polypeptide. An example of an acceptable function is one in which the isolated protein acts on a particular substrate to produce a specific product. An example of an unacceptable function is one in which a plant is transformed with a nucleic acid encoding the claimed protein and plants are screened for increased yield, as yield is the desired result or outcome, and not a function.

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10. Claims 1-3, 5-8, 12-17, 21-23, and 27-31 are deemed free of the prior art, given the failure of the prior art to teach or reasonably suggest a method of transforming a plant, a transformed plant, and a transformed seed, all of which comprise an isolated polynucleotide encoding a polypeptide exhibiting 95% sequence identity to SEQ ID NO:1 and an isolated polynucleotide encoding SEQ ID NO:1.
11. Claims 6-7, 13-14, and 22 are objected to for depending on a rejected base claim and would be allowable if rewritten to not be dependent on rejected claims.
12. Claims 27 and 28 are allowable.
13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stuart F. Baum whose telephone number is 703-305-6997. The examiner can normally be reached on M-F 8:30-5:00.
- If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amy Nelson can be reached on 703-306-3218. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.
- Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0196.

Stuart F. Baum Ph.D.

September 8, 2003

DAVID T. FOX
PRIMARY EXAMINER
GROUP 180-1638

David T. Fox
for Phuong Bui